

## Remarks

### I. Status of the Application and Claims

At the time that the present Office Action was mailed, the claims pending in the present application were claims 19-21, 24-31 and 33-40. In the present response, all of these claims were cancelled and new claims 41-60 were introduced.

### II. The Amendments

All pending claims were cancelled and new claims 41-60 have been introduced. Support for the new claims is shown in the table below.

**Table 1: Support for New Claims**

New Claim	Support
41, 42 and 48	cancelled claims 19, 20 and 22 (cancelled in previous response), pg 8 of the application, lines 5-10; pg. 7 of the application, lines 7-10
43 and 49	cancelled claims 19 and 21
44 and 53	cancelled claim 27
45 and 54	cancelled claim 28
46 and 55	cancelled claim 29
47 and 56	cancelled claim 30
57	cancelled claim 34
58	cancelled claim 35 and 22 (cancelled in previous response); pg. 7 of the application, lines 7-10
59	cancelled claim 38
60	cancelled claim 40

It should be noted that the ranges recited in claims 41 and 58 were amended somewhat relative to those in the corresponding claims in Applicants' previous response. The previous range was incorporated into claims as a point of distinction from the range recited in WO 02/060988. However, replacing the lower limit of 0.001% with 0.0001% also results in a distinct, non-overlapping range. Thus, Applicants believe that the present claims still recite a range of laser-absorbing particles that is novel relative to the ranges provided in

the '988 reference. Support for the lower limit of 0.0001 may be found on page 7 of the application, lines 7-10 and in previously cancelled claim 22.

The amendments made herein do not add new matter to the application and their entry is therefore respectfully requested.

### **III. Objections to Claims**

In item 17 of the Office Action, the Examiner objects to claims based upon the allegation that the term "comprising" is improperly used in certain places. In response, Applicants have amended claims to use the word "constitutes" in place of "comprising" in these places. In light of these amendments, Applicants respectfully submit that the Examiner's objection has been overcome.

## **The Rejections**

### **I. Double Patenting Rejection**

In items 5-16 of the Office Action, all claims are provisionally rejected on non-statutory double patenting grounds based upon applications 10/544,041 and 11/368,602. Since this is a provisional double patenting rejection, Applicants would like to defer consideration until such time as the claims are otherwise allowable. It is possible that the rejection may be withdrawn due to amendments that occur during future prosecution. Also, Applicants would like to point out that the present claims have been amended and request that the Examiner consider whether the double patenting rejection is still warranted.

### **II. Rejection of Claims Under 35 USC §102**

In items 18-21 of the Office Action, all claims are rejected based upon the allegation that they are anticipated by DE 20 2004 003 362. The Examiner points out that this rejection would be overcome if Applicants' priority application, DE 10 2004 010 504.9, fully supports the claims now pending. In order to establish this, Applicant has submitted herewith a translation of the priority application. It is respectfully requested that the Examiner review this translation and reconsider the present rejection.

**III. Rejection of Claims Under 35 USC §103 Based on JP 2003-246132**

In items 22-29 of the Office Action, claims 19-21, 27-30, 34 and 39-40 are rejected under 35 USC §103 as being obvious in light of JP 2003-246132. The Examiner alleges that this reference discloses all of the elements of the rejected claims except the concentration of metal oxides and argues that this concentration would be arrived at as the result of optimizing materials and methods for a particular objective.

Applicants respectfully traverse this rejection.

The translation of the above reference is very difficult to understand and it is not clear to Applicants that high transparency plastic materials as defined in the present application are actually disclosed. However, it seems apparent that the presence of mica is crucial to the materials described. To the extent that metal oxides are taught as being present, they are taught as being combined with mica. In contrast, Applicants claims require "discrete laser-absorbing particles consisting of nanoscale laser-sensitive metal oxides and/or nanoscale laser-sensitive doped metal oxides." This is clearly not something that is disclosed or obvious in light of any teachings in the '132 reference.

**IV. Rejection of Claims Under 35 USC §103 Based on WO 02/060988**

In items 30-42 of the Office Action, the Examiner makes several rejections based primarily on WO 02/060988. Claims 19-21, 24-26, 31, 35, 37 and 39 are rejected using the '988 reference in combination with a screenshot of the Sigma Aldrich website. Later, the Examiner cites Murase, *et al.* (US 5,445,871); Radzwill (US 4,177,099); Smith, *et al.* (US 5,629,404); and Kawase, *et al.* (US 2004/0209031) in rejecting claims 27-30, 33 and 36. The Examiner argues that the laser-markable and laser-weldable plastics required in Applicants' claims are inherently present in the compositions disclosed in '988. The remaining references are cited for teaching various plastics that could be used in compositions.

Applicants respectfully traverse this rejection.

Whether or not a plastic composition is laser-markable or laser weldable will depend upon the types of plastic present and the amount of laser energy absorbing particles present.

Applicants cannot see any reason why compositions of this nature are inherently present in the '988 reference. This reference is concerned with polyvinyl butyral polymers that are used primarily to form a transparent, shatter-proof layer in car windshields and the use of metal oxides to reflect heat from being transmitted through the polymers. There is no reason why the compositions disclosed would need to be laser-markable or laser weldable and there would be no reason to use metal oxides in compositions at concentrations where they absorb laser energy to the point where images can be inscribed or the surrounding plastic material melted. Although it is true that both Applicants and the '988 reference use metal oxides to absorb energy, the ultimate objectives will influence the concentration and type of metal oxide used.

Applicants also pointed out in their previous response that pending claims require that metal oxide be present at 0.001 to 0.01 percent, and that the lowest percentage suggested in the '988 reference is five times higher than the highest percentage permitted by Applicants' claims. In the present response, the Examiner seems to suggest that the concentration of metal oxide in compositions would be adjusted based upon the objectives of the party making the compositions. However, the references cited by the Examiner do not suggest using compositions for laser-marking or laser-welding. Thus, there is no motivation to adjust concentrations to the ranges used by Applicants. The only motivation to make such an adjustment is in the present application itself and this cannot be validly used as a basis for rejecting claims.

#### **V. Rejection of Claims Under 35 USC §103 Based on US 2002/0176804**

In items 43-45 of the Office Action, the Examiner rejects claims 19, 27 and 34 as being obvious over Strand (US 2002/017604). Later, this reference is used in combination with Ma, *et al.* (*Powder Technology* 111:66-78 (2000)) to reject claims 19, 27 and 34 (items 46-47) and in combination with the '988 reference to reject claims 20, 21, 24-26, 31, 33 and 35-40. In all cases the Strand reference is alleged to disclose plastic compositions that contain metal oxides which can be welded. Although the concentrations of metal oxides are different from those required in Applicants' claims, the Examiner alleges that it would be obvious to adjust the concentration depending in particular objectives. The references by Ma and '988 are cited as providing teachings concerning particle size, specific types of metal oxides and methods for forming compositions.

Applicants respectfully traverse this rejection.

Rejections that are based upon the Strand reference alone do not include claim 20 and since the limitations of this claim are now present in all claims, Applicants submit that no rejections should be maintained based upon Strand alone.

With respect to rejections based upon combining Strand with Ma *et al.* or '988, Applicants respectfully submit that the Examiner has not pointed out any valid reason as to why one of skill in the art would be motivated to make these combinations. The teachings of the references do not appear to be concerned with materials or processes that are used in a similar way. For example, Applicants do not see any clear reason why one trying to improve materials used in windshields would be concerned with a reference directed to methods of making microfluidic substrate assemblies. Similarly, Applicants do not see any reason why it would be advantageous or desirable to use nanoscale sized particles in the materials of Strand.

In addition, the same arguments presented above with respect to the '988 reference apply equally to the rejections based on Strand. Different manufacturing objectives will result in optimum concentrations of metal oxides being different and a different choice of metal oxides for use. Since the objectives of the procedures in the references cited are different from those of Applicants, it is submitted that there is not a valid basis for concluding that the concentrations and types of metal oxides resulting from an optimization of these procedures will fall within the scope of the claims now pending.

### Conclusion

In light of the considerations above, Applicants respectfully request that the Examiner reconsider and withdraw the rejections that have been made. If, in the opinion of the

Examiner, a phone call may help to expedite the prosecution of this application, the Examiner is invited to call Applicants' undersigned attorney at (240)683-6165.

Respectfully submitted,

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